ADC COMPACT
RISLINK TOOLKIT
SOFTWARE

USER MANUAL

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General

This manual describes the functionalities of the Rislink Toolkit for the ADC Compact system, to be installed as an add-onto the ADC Compact ID software.

The Rislink Toolkit is an optional licensed toolkit, sold as a separate product, which permits the user to create a link between the ADC Compact ID software and a RIS system. Patient data can be downloaded to the ID station, and in a later version, feedback data can be uploaded to the RIS system. Extra functions that have been added since the release of the ADC70 Rislink Toolkit is the possibility of accessing the RIS through a mapped worklist, a DICOM RIS worklist and the Accession Number.

Agfa is not responsible for the connection between the RIS system and the ID station PC. Your Agfa representative can advise you on which software package you can use to connect to the most common RIS systems.

RIS functionality in the
ADC Compact ID software

The RIS can be accessed in several different modes.

- Gaining direct access to the RIS data file

- Using a DOS executable

- Using a Windows executable

- Using a mapped worklist

- Using a DICOM RIS worklist
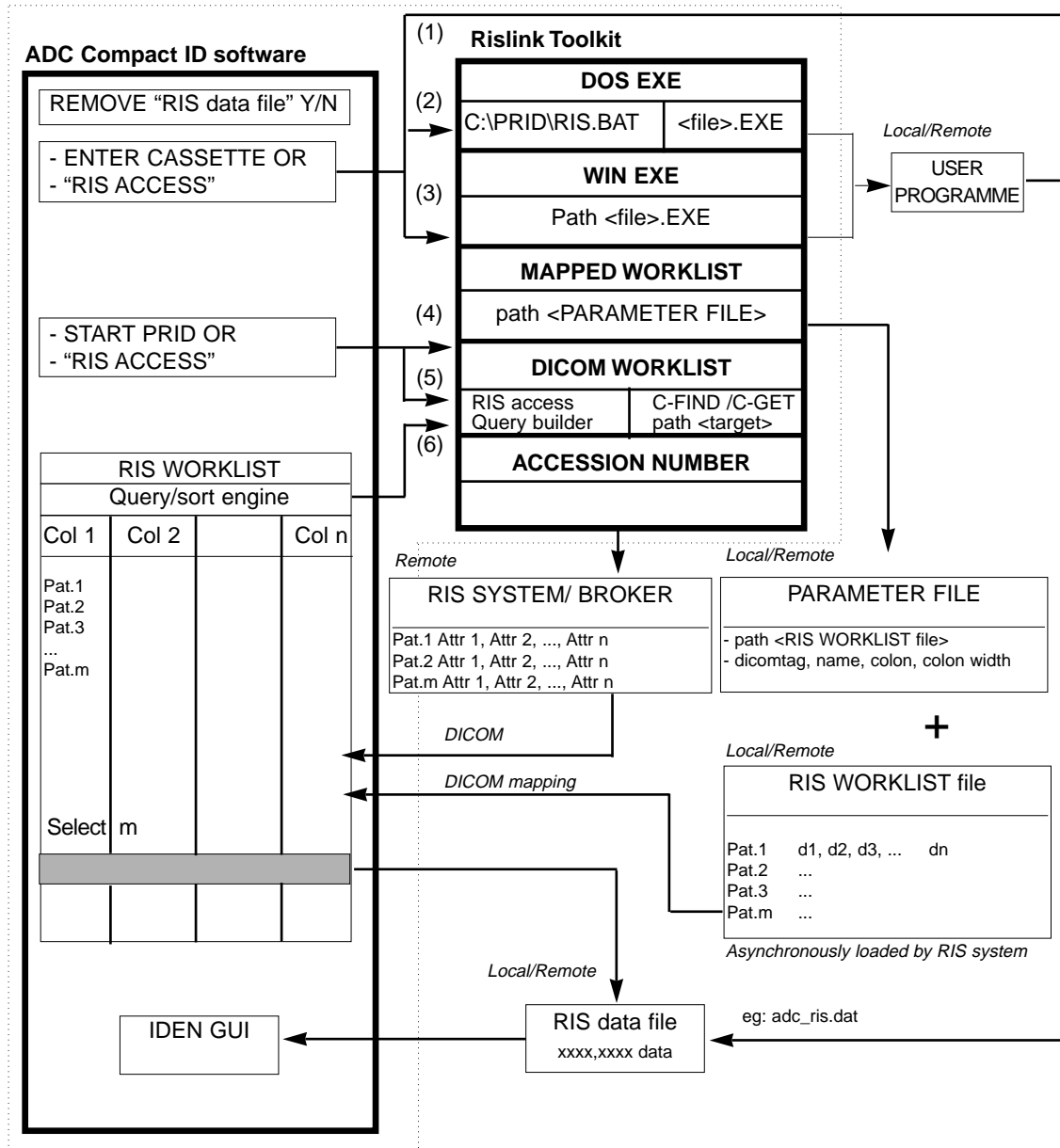
- Using the Accession Number

Each time a cassette is entered and RIS is activated, a sub-process written by the user is called. In this sub-process the user creates a RIS data file containing the RIS identification data that will be used to be filled out in the Identification screen.

Every identification field has an ACR-NEMA code (old format) or a DICOM code (new format). For more information we refer to the section "RIS field mapping" on page 45 of this manual.

When a field is missing in the RIS data file, the default value is taken. See under "RIS value validation" on page 48.

The RIS services support the current Rislink (DOS-based) Toolkit, based upon NFS file transfer. The ADC Compact ID software supports the file format of the DOS-Rislink version, but should be used with NFS (windows 95) and NTFS (windows NT). The RIS data is displayed in a DOS window.

RIS action flow

```
┌┄┄┄┄┄┄┄┄┄┄┄┄┄┄┄┄┄┄┄┄┄┄┄┄┄┄┄┄┄┄┄┄┄┄┄┄┄┄┄┄┄┄┄┄┄┄┄┄┄┄┄┐
                                 (1)  Rislink Toolkit
  ADC Compact ID software      ┌─────────────────────────────┐
 ┌───────────────────────────┐ │       DOS EXE               │
 │ REMOVE "RIS data file" Y/N │ │  C:\PRID\RIS.BAT │ <file>.EXE│
 ├───────────────────────────┤(2)│                           │
 │ - ENTER CASSETTE OR        │ │       WIN EXE               │
 │ - "RIS ACCESS"             │ │     Path <file>.EXE         │
 └───────────────────────────┘(3)│                           │
                                 │    MAPPED WORKLIST          │
                              (4)│  path <PARAMETER FILE>     │
 ┌───────────────────────────┐ │     DICOM WORKLIST          │
 │ - START PRID OR            │ │  RIS access │ C-FIND /C-GET │
 │ - "RIS ACCESS"             │(5)│ Query builder│path <target>│
 └───────────────────────────┘ │    ACCESSION NUMBER         │
                              (6)│                           │
 ┌───────────────────────────┐ └─────────────────────────────┘
 │    RIS WORKLIST           │
 │    Query/sort engine      │
 ├─────┬─────┬─────┬─────────┤
 │Col 1│Col 2│     │  Col n  │
 ├─────┼─────┼─────┼─────────┤
 │Pat.1│     │     │         │
 │Pat.2│     │     │         │
 │Pat.3│     │     │         │
 │...  │     │     │         │
 │Pat.m│     │     │         │
```

Local/Remote — USER PROGRAMME

Remote — RIS SYSTEM/ BROKER
- Pat.1 Attr 1, Attr 2, ..., Attr n
- Pat.2 Attr 1, Attr 2, ..., Attr n
- Pat.m Attr 1, Attr 2, ..., Attr n

Local/Remote — PARAMETER FILE
- path <RIS WORKLIST file>
- dicomtag, name, colon, colon width

+

DICOM
DICOM mapping

Local/Remote — RIS WORKLIST file
- Pat.1   d1, d2, d3, ...   dn
- Pat.2   ...
- Pat.3   ...
- Pat.m   ...

Asynchronously loaded by RIS system

Select m

Local/Remote — RIS data file — xxxx,xxxx data   eg: adc_ris.dat

IDEN GUI

Creating a data file

As already stated, the RIS data file can be produced in several ways. The user is responsible for the creation of this file, which must comply with the ACR-NEMA format or the new DICOM format. The data in this file is extracted from the Radiology Information System (RIS) of the hospital.

The creation of this file is not the subject of this manual. However, the following is an extract from a RIS data file:

```
0019,1001,V1      (New RIS format: V1) see under "RIS field mapping" on
                  page 23.
;
;PatientName & Firstname
0010,0010,Mr. Lim ^Po Kiam
;
;PatientID
0010,0020,img7_ID
;
;PatientSex
0010,0040,1
;
;Wait flag
0019,1072, 0
;
;PatientBirthDate
0010,0030,19960916
;
;Name of Physician(s) Reading Study
0008,1060,AGFA DEFAULT M
;
;StudyID
0020,0010,std_img7
;
;Referring Physician's Name
0008,0090,ADC_SQA
;
;tags.Comment
0020,4000,Comment_img7
;
```

```
;Patient Weight
0010,1030,img7_weight
;
;Ethnic group
0010,2160,img7_ethnic_grp
;
;User_Info_3
0019,10FC,img7_Info_3
```

etc.

Rislink and the RIS data file

Gaining direct access to the RIS data file

ADC Compact ID software

REMOVE "RIS data file" Y/N	
- ENTER CASSETTE OR - "RIS ACCESS"	

| - START PRID OR
 - "RIS ACCESS" | |

RIS WORKLIST
Query/sort engine

Col 1	Col 2		Col n
Pat.1 Pat.2 Pat.3 ... Pat.m			
Select m			

(1) **Rislink Toolkit**

DOS EXE	
C:\PRID\RIS.BAT	<file>.EXE

(2)

WIN EXE	
Path <file>.EXE	

(3)

MAPPED WORKLIST
path <PARAMETER FILE>

(4)

DICOM WORKLIST	
RIS access Query builder	C-FIND /C-GET path <target>

(5)

ACCESSION NUMBER

(6)

Local/Remote

USER PROGRAMME

Remote

RIS SYSTEM/ BROKER

Pat.1 Attr 1, Attr 2, ..., Attr n
Pat.2 Attr 1, Attr 2, ..., Attr n
Pat.m Attr 1, Attr 2, ..., Attr n

Local/Remote

PARAMETER FILE

- path <RIS WORKLIST file>
- dicomtag, name, colon, colon width

+

DICOM

DICOM mapping

Local/Remote

RIS WORKLIST file

Pat.1   d1, d2, d3, ...   dn
Pat.2   ...
Pat.3   ...
Pat.m   ...

Asynchronously loaded by RIS system

Local/Remote

IDEN GUI

RIS data file
xxxx,xxxx data

eg: adc_ris.dat

To gain direct access to the RIS data file, select RIS settings as illustrated:

Select the following options:
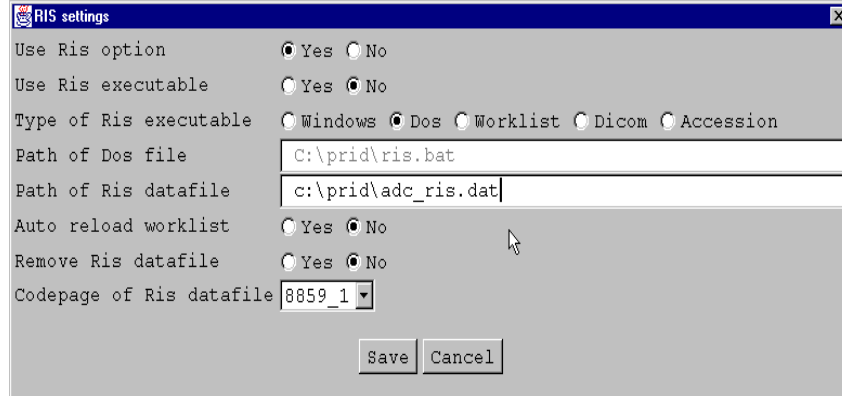
■ For "Use RIS option", select YES.

■ The RIS executable is not being used for the present, so click NO.

■ The path of the DOS file is fixed but not relevant at this point.

■ The path and the name of the RIS data file are defined by the user. In this case: "c:\prid\adc_ris.dat".

■ Automatic reload of the worklist will be explained later and should be set to NO for the present.

■ "Remove RIS data file": this option enables you to erase the RIS data file after it has been read and written to the cassette.

■ Code page of RIS data file: enables you to determine which code page the RIS data file was created with.

   Click SAVE to save your settings or CANCEL to abort the operation.

   The file c:\prid\adc_ris.dat contains the data that will be used to fill in the fields in the identification screen. See the adc_ris.dat file on pages 4 and 5.

```
ADC2 IDENTIFICATION STATION <IDEN>  IDENTIFICATION SCREEN          _ □ ×

File  Configuration  Mode  Perform  Help

PATIENT
Patient Name      Mr. Lim               Firstname      Po Kiam
Birth date        16/09/1996            Patient ID     img7_ID
Sex               Other            ▾    Accession number  Acc_nr_7
STUDY
Radiologist       AGFA DEFAULT              ▾
Examination       SERVICE                  ▾  Sub examination  CHEST PORTABLE    ▾
IMAGE
Department        AGFA ADC2
Patient position  AP      ▾
Cassette orientat Landscape        ▾       Exposure Class 200  ▾
Comment           Comment_img7
DESTINATIONS
Hardcopy unit     ADC_LR1          ▾      Number of copies  1 ▾
Processing statio ADC_PS1          ▾      Film format       14INX17IN  ▾
Archive station   None             ▾
Send station      None             ▾

     F1  Write | F2  Clear | F3  Recall | F4  New patient | F7  History | F10  Cancel

Ready for identification.              |AUTO|              05/06/1997 19:12:14
```
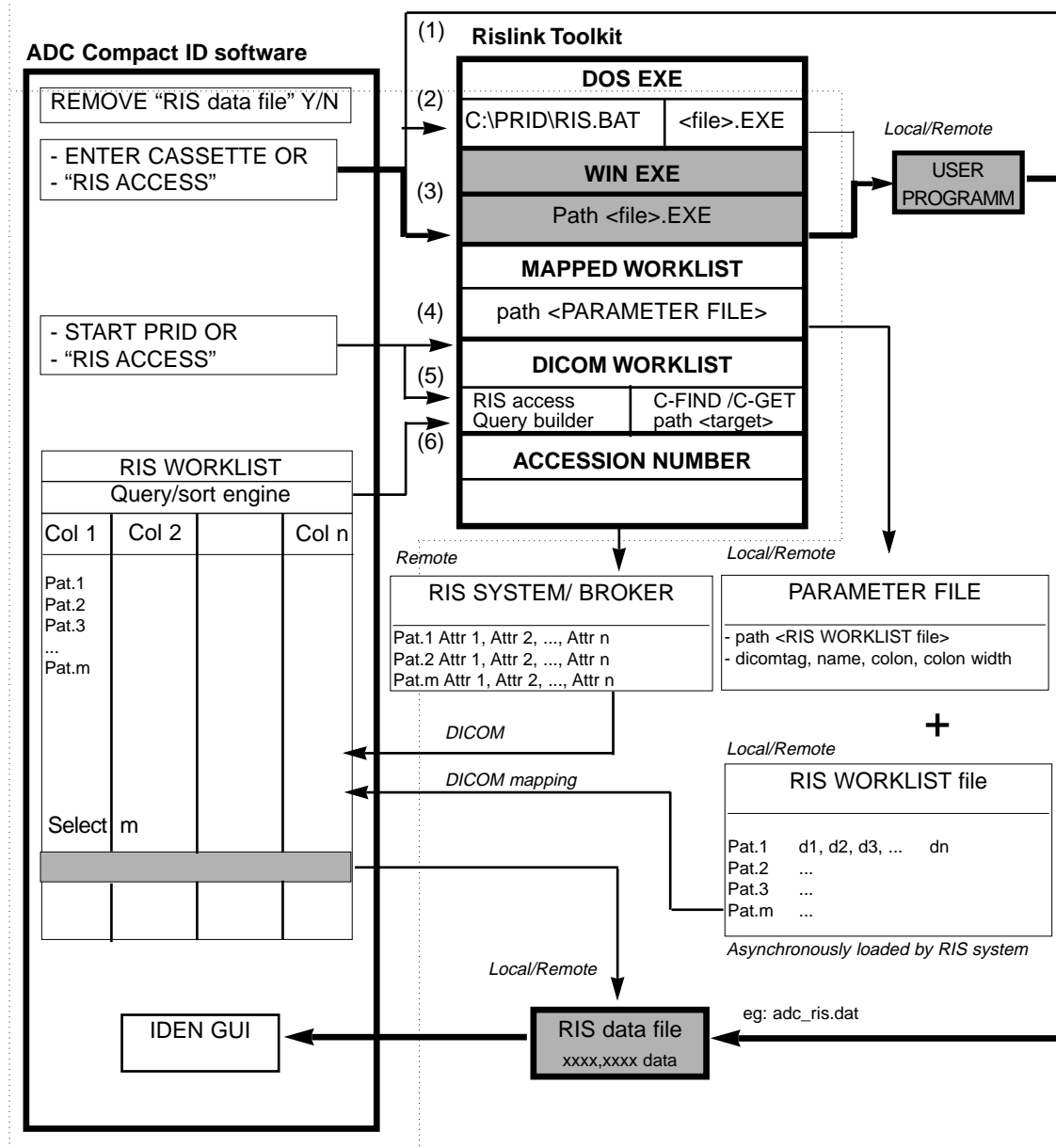
Once the data has been read and approved click the Write function key. The data will now be written to the cassette.

The data can be altered in 2 ways:

■ directly on screen.

■ by changing the RIS data file. In this case you have to start over again.

The configuration of system files for editable and non-editable fields must be carried out by AGFA service personnel.

Using Rislink with a DOS executable

ADC Compact ID software

REMOVE "RIS data file" Y/N

- ENTER CASSETTE OR
- "RIS ACCESS"

- START PRID OR
- "RIS ACCESS"

RIS WORKLIST			
Query/sort engine			
Col 1	Col 2		Col n
Pat.1			
Pat.2			
Pat.3			
...			
Pat.m			
Select	m		

(1) Rislink Toolkit

DOS EXE	
C:\PRID\RIS.BAT	<file>.EXE

(2)

WIN EXE

Path <file>.EXE

(3)

MAPPED WORKLIST

path <PARAMETER FILE>

(4)

DICOM WORKLIST

RIS access Query builder	C-FIND /C-GET path <target>

(5)

ACCESSION NUMBER

(6)

Local/Remote

USER PROGRAMM

Remote

RIS SYSTEM/ BROKER
Pat.1 Attr 1, Attr 2, ..., Attr n
Pat.2 Attr 1, Attr 2, ..., Attr n
Pat.m Attr 1, Attr 2, ..., Attr n

DICOM

DICOM mapping

Local/Remote

PARAMETER FILE
- path <RIS WORKLIST file>
- dicomtag, name, colon, colon width

+

Local/Remote

RIS WORKLIST file	
Pat.1	d1, d2, d3, ... dn
Pat.2	...
Pat.3	...
Pat.m	...

Asynchronously loaded by RIS system

Local/Remote

IDEN GUI

RIS data file
xxxx,xxxx data

eg: adc_ris.dat

In this case the RIS data file is accessed via a DOS batch script called C:\PRID\RIS.BAT. In this batch file a DOS executable can be mounted, to be called when required.

The user programme that is called delivers a RIS data file (local or remote) with the data to be used to fill in the IDEN GUI. The file name RIS.BAT cannot be changed and the file must reside in the directory c:\prid.

To configure the system proceed as follows:

■ Select RIS settings as illustrated:
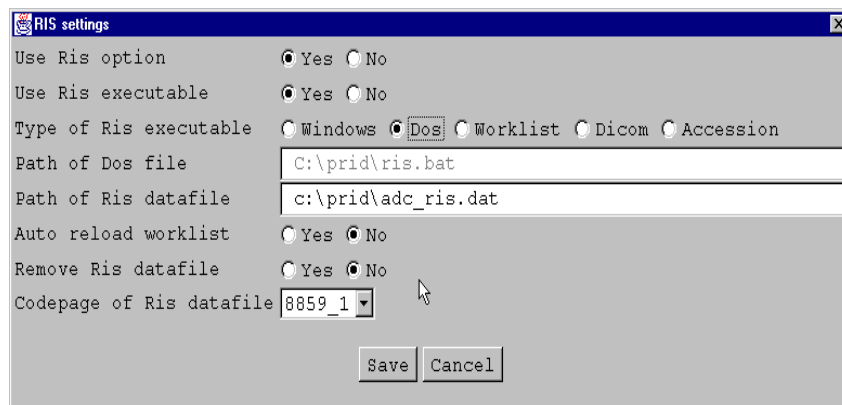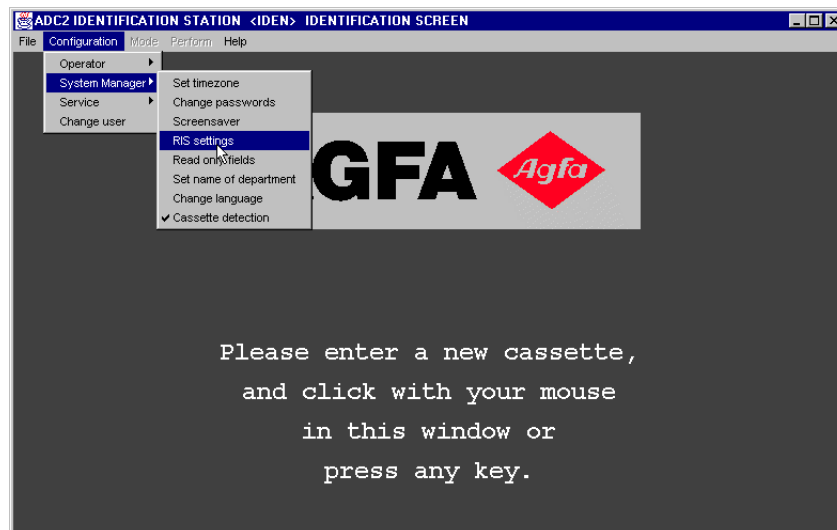
- For "Use RIS option" select YES.

- The RIS executable is being used, so click YES.

- The path and name of the DOS batch file is fixed. Check if the file exists.

   The following is an example of the RIS.bat file.
   Suppose the RIS data file is mounted on s:\ _ADC2_F1\TAG\risfile.dat:

   ```
   @ECHO OFF
   IF NOT EXIST c:\prid\adc_ris.dat GOTO CONTINUE
   DEL c:\prid\adc_ris.dat

   :CONTINUE
   ECHO "Waiting for RIS-data..."
   :WAIT
   IF NOT EXIST c:\prid\adc_ris.dat GOTO WAIT
   copy s:\_ADC2_F1\TAG\risfile.dat   c:\prid\adc_ris.dat

   :END
   ```

- The path and the name of the RIS data file are defined by the user. In this case "c:\prid\adc_ris.dat".

- Automatic reload of the worklist will be explained later and should be set to NO for the present.

- Remove RIS data file: this option enables you to erase the RIS data file after it has been read and written to the cassette.

- Code page of RIS data file: enables you to determine which code page the RIS data file was created with.

Click SAVE to save your settings.

The file c:\prid\adc_ris.dat contains the data that will be used to fill in the fields in the identification screen. See the adc_ris.dat file on pages 4 and 5.

Once the data has been read and approved, click the Write function key. The data will now be written to the cassette.

Data can be altered in 2 ways:

■ directly on screen.

■ by changing the RIS data file.

Using Rislink with a Windows executable

ADC Compact ID software

REMOVE "RIS data file" Y/N

- ENTER CASSETTE OR - "RIS ACCESS"

- START PRID OR - "RIS ACCESS"

RIS WORKLIST
Query/sort engine

Col 1	Col 2		Col n
Pat.1 Pat.2 Pat.3 ... Pat.m			
Select m			

IDEN GUI

---

(1) Rislink Toolkit

DOS EXE	
(2) C:\PRID\RIS.BAT	<file>.EXE

WIN EXE
(3) Path <file>.EXE

MAPPED WORKLIST
(4) path <PARAMETER FILE>

DICOM WORKLIST	
(5) RIS access Query builder	C-FIND /C-GET path <target>

ACCESSION NUMBER
(6)

Local/Remote

USER PROGRAMM

Remote

RIS SYSTEM/ BROKER

Pat.1 Attr 1, Attr 2, ..., Attr n
Pat.2 Attr 1, Attr 2, ..., Attr n
Pat.m Attr 1, Attr 2, ..., Attr n

DICOM

DICOM mapping

Local/Remote

PARAMETER FILE

- path <RIS WORKLIST file>
- dicomtag, name, colon, colon width

+

Local/Remote

RIS WORKLIST file

Pat.1   d1, d2, d3, ...   dn
Pat.2   ...
Pat.3   ...
Pat.m   ...

Asynchronously loaded by RIS system

Local/Remote

eg: adc_ris.dat

RIS data file xxxx,xxxx data

The RIS data file can also be accessed via a WINDOWS executable.

The user programme that has been called delivers a RIS data file (local or remote) with the data to be used to fill in the IDEN GUI.

To configure the system, proceed as follows:
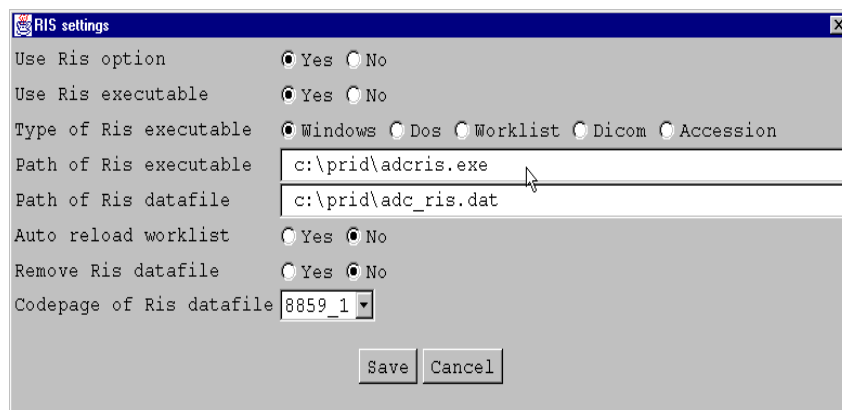
Select RIS settings as illustrated:

■   For "Use RIS option", select YES.

■   The RIS executable is now being used, so click YES.

■ The type of RIS executable is Windows.

■ Fill in the path and name of the Windows executable (in this example c:\prid\adcris.exe). Check if the file exists.

■ The path and the name of the RIS data file are defined by the user. In this example: "c:\prid\adc_ris.dat".

■ Automatic reload of the worklist will be explained later and should be set to NO for the present.

■ Remove RIS data file: with this option you can erase the RIS data file after it has been read and written to the cassette.

■ Code page of RIS data file: enables you to determine which code page the RIS data file was created with.

Click SAVE to save your settings.

The file c:\prid\adc_ris.dat contains the data that will be used to fill in the fields in the identification screen. See adc_ris.dat file on pages 4 and 5.

Once the data has been read and approved, click the Write function key. The data will now be written to the cassette.

Data can be altered in 2 ways:

◼ directly on screen.

◼ by changing the RIS data file.

Using Rislink with a mapped worklist

ADC Compact ID software

REMOVE "RIS data file" Y/N	
- ENTER CASSETTE OR - "RIS ACCESS"	

- START PRID OR
- "RIS ACCESS"

RIS WORKLIST
Query/sort engine

Col 1	Col 2		Col n
Pat.1 Pat.2 Pat.3 ... Pat.m			
Select	m		

IDEN GUI

(1) Rislink Toolkit

DOS EXE

C:\PRID\RIS.BAT	<file>.EXE

(2)

(3)

WIN EXE

Path <file>.EXE

MAPPED WORKLIST

path <PARAMETER FILE>

(4)

DICOM WORKLIST

RIS access Query builder	C-FIND /C-GET path <target>

(5)

ACCESSION NUMBER

(6)

Local/Remote

USER
PROGRAMME

Remote

RIS SYSTEM/ BROKER

Pat.1 Attr 1, Attr 2, ..., Attr n
Pat.2 Attr 1, Attr 2, ..., Attr n
Pat.m Attr 1, Attr 2, ..., Attr n

DICOM

DICOM mapping

Local/Remote

PARAMETER FILE

- path <RIS WORKLIST file>
- dicomtag, name, colon, colon width

+

Local/Remote

RIS WORKLIST file

Pat.1	d1, d2, d3, ... dn
Pat.2	...
Pat.3	...
Pat.m	...

Asynchronously loaded by RIS system

Local/Remote

RIS data file
xxxx,xxxx data

eg: adc_ris.dat

To work with a mapped worklist you need 2 files:

■ the RIS WORKLIST file created by the RIS, with filename WORKLIST.TXT and location determined by the RIS (local or remote). The data fields are delimited with "," in this example.

■ a PARAMETER template file PARAM.DAT created by the administrator which converts the delimited data from the RIS worklist file to a RIS WORKLIST with DICOM fields (col1...coln).

The Rislink Toolkit reads the WORKLIST.TXT file by means of the user-defined template file and outputs the result in a file named, for example, adc_ris.dat. The location of this file is determined in the template file PARAM.DAT.

The following is an extract from the PARAM.DAT file:

INPUT:c:\prid\worklist\worklist.txt	*path of worklist file to be converted*
OUTPUT:c:\prid\adc_ris.dat	*path of RIS data file*
COPY:c:\prid\Agfa.cop	*enter this string as it is*
SEPARATOR:,	*declare separator of delimited file*
FIELD 01:*	*field1 of RIS worklist file is not to be converted to a DICOM tag*
FIELD 02:0019,2001/PatientName/1/15	*field2 is to be converted to DICOM tag 0019,2001*
FIELD 03:0019,2002/First Name/2/15	
FIELD 04:0010,0030/Birthdate/3/10	
FIELD 05:0010,0020/PatientID/4/14	
.	
.	
FIELD 33:0019,10F2/Archive Station/32/8	
FIELD 34:0019,10F3/Send Station/33/8	
FIELD 35:0019,1072/Wait flag/34/1	

To configure the system for MAPPED WORKLIST, proceed as follows:
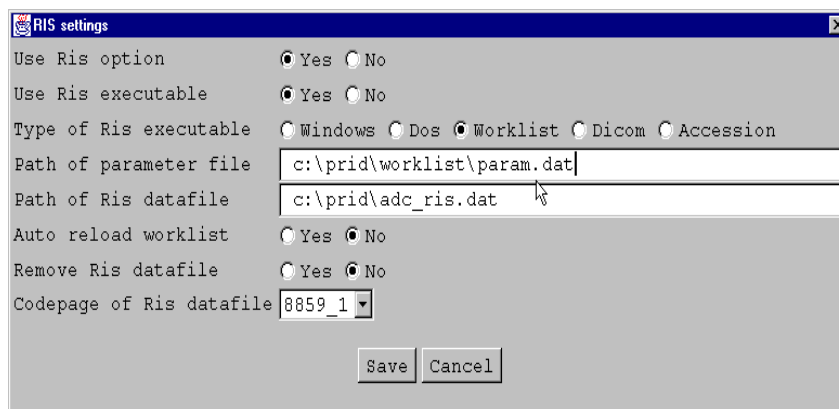
Select RIS settings as illustrated:

- ■ For "Use RIS option", select YES.

- ■ The RIS executable is now being used, so click YES.

- ■ The type of RIS executable is Worklist.

■ Fill in the path and name of the parameter file. Check if the file exists.

■ The path and the name of the RIS data file are defined by the user. In this case: "c:\prid\adc_ris.dat".

■ Automatic reload of the worklist will reload the worklist each time a cassette is read, if it is set to YES. As this can be time-consuming, you have the choice of disabling this option.

■ Remove RIS data file: with this option you can erase the RIS data file after it has been read and written to the cassette.

■ Code page of RIS data file: enables you to determine which code page the RIS data file was created with.

Click SAVE to save your settings.

The file c:\prid\adc_ris.dat contains the data that will be used to fill in the fields in the identification screen. See adc_ris.dat file on pages 4 and 5.

After the cassette has been inserted, the worklist will be shown on the screen:

PatientName	First Name	Birthdate	PatientID
Dow	John	19530916	DJ091601
Johnsson	Peter	19550116	JP550101
Brown	David	19531016	BD531001
Jacobs	Jim	19120916	JJ120901
Chang	Betty	19960916	CB091601
Clark	Peter	19150101	CP010101
Brown	Charlene	19631016	BC101601
Dupont	Brigitte	19700512	DB051201
Van Damme	Jan	19650317	VDJ031701
Peterson	Heidi	19751001	PH100101
Vladimir	Igor	19860416	VI041601
Verstappen	Dieter	19891215	VD121501
Brown	David	19970608	BD060801

Select Reload Cancel

■ Click the Cancel button to abort the operation.

■ Click the Reload button to reread the worklist and update your screen information.

■ Click on the patient and then the Select button to select a patient.

The information will be stored in the Identification screen.

Using Rislink with a DICOM RIS Worklist

RIS Settings

To gain access to the RIS data file using the DICOM RIS Worklist, proceed as follows:

■ Select Ris Settings from the System Manager drop-down menu in the ADC Compact identification screen, as shown below.

■ In the resulting screen, select the following options:
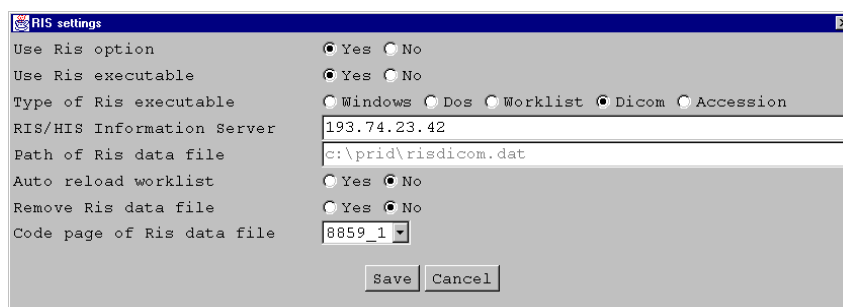
■ For **Use Ris option**, select YES.

■ The **RIS executable** will be used, so click YES

■ If you click YES, the **path of the RIS data file** is fixed and cannot be changed. If you select NO for **Use Ris executable**, the path of the RIS data file which will give access to your own query system must still be defined.

■ Select DICOM as the **Type of Ris executable** you will be using.

■ As for **RIS/HIS Information Server**, enter the relevant IP address or host name or have this done by the System Manager.

■ The **Automatic Reload** of the DICOM worklist should be set to NO for all Worklist-Oriented queries. For Patient-Oriented queries, select YES instead. The system will then automatically reload the DICOM worklist each time a cassette is read and identified, displaying the Query Builder as shown in the screen below.

■ **Remove RIS data file :** this option enables you to erase the RIS data file after it has been read and written onto the cassette.

■ The **Code page of RIS data file** enables you to define which code page the RIS data file is created with.

■ Click [SAVE] to store your RIS settings or press [CANCEL] to abort the operation.
The C:\prid\risdicom.dat file contains the data that will be used to complete the fields in the identification screen.

Creation of the DICOM RIS worklist

Query builder

When a cassette is inserted into the ADC Compact Digitizer for the first time, the system will display the Query Builder, as shown in the sample screen below.
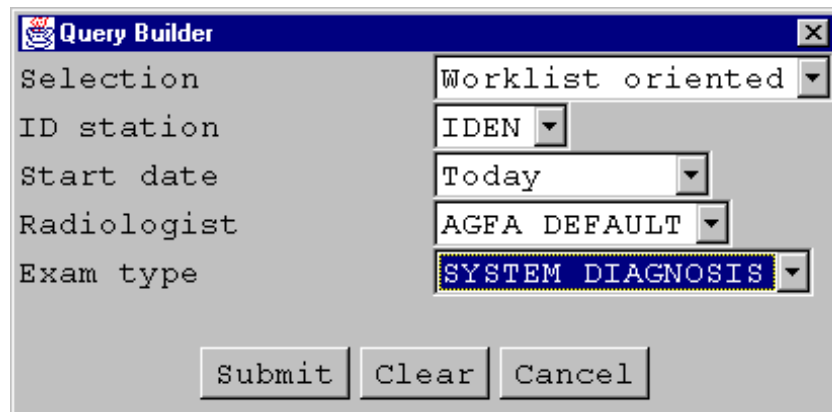
As the Automatic Reload has initially been set to NO, the system will not return the Query Builder for subsequent identifications. Instead, it will display the DICOM RIS Worklist proper, whenever a cassette is inserted.

Worklist oriented vs.patient oriented queries

Queries can be initiated using two different methods, viz.:

■ Worklist Oriented Query, i.e. a "global" patient list search
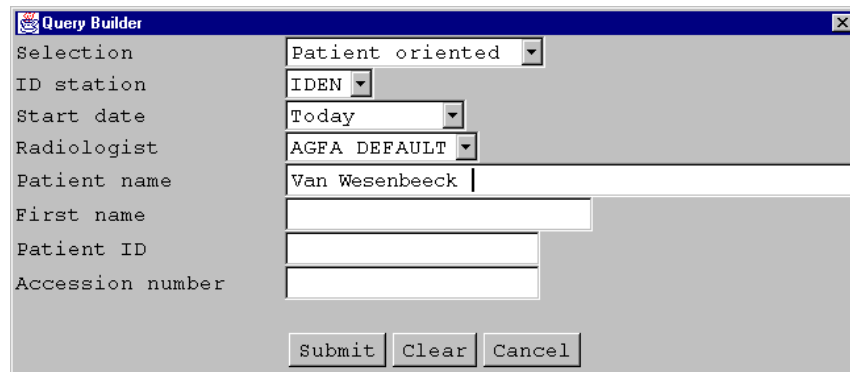
■ Patient Oriented Query, i.e. a single patient search
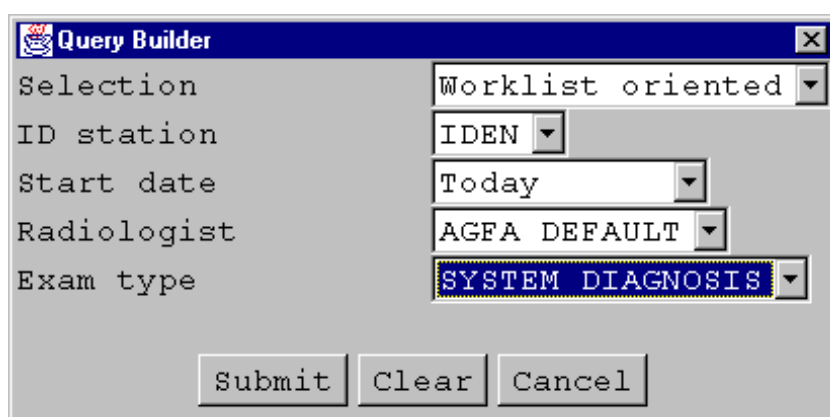
Worklist oriented Query
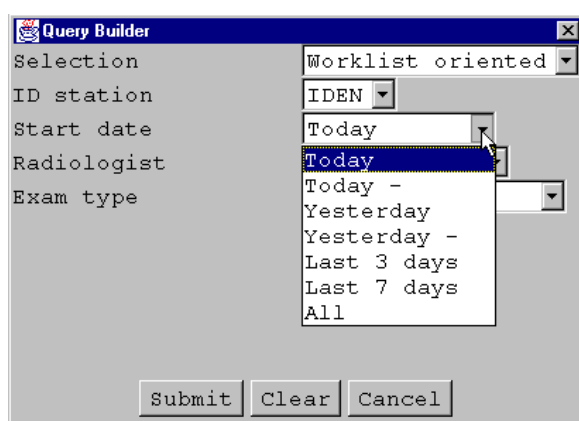
In order to initiate a Worklist Oriented DICOM query, proceed as follows:

■ Select **Worklist oriented** in the Query Builder screen

■ Select the appropriate ID station from the ID Station drop-down menu

■ In the Start date drop-down menu, select the relevant period you want the Worklist oriented query to be built on.

■ Select the appropriate **Radiologist** and **Exam Type** from the next two drop-down menus.

■ Clicking the [CLEAR] button resets the options to their respective default values.
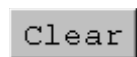
Clear

The default values are as follows:
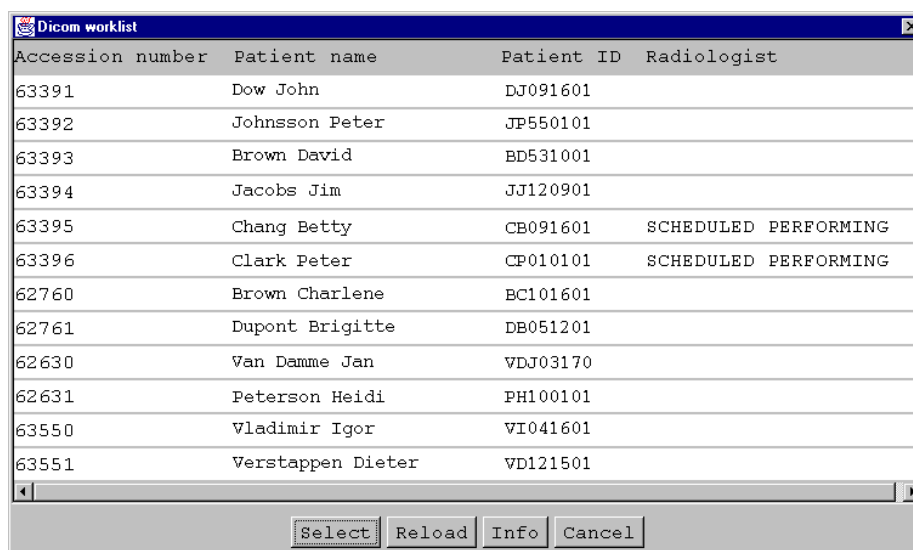
■ ID Station   the ID Station you are currently working on
■ Start date   today
■ Radiologist   unchanged
■ Exam type   unchanged

■ Submit your Worklist Oriented query by pressing the [SUBMIT] button

Submit
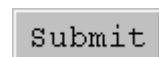
The system displays a waiting message while querying the HIS/RIS.

Please wait. I'm working...
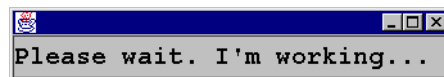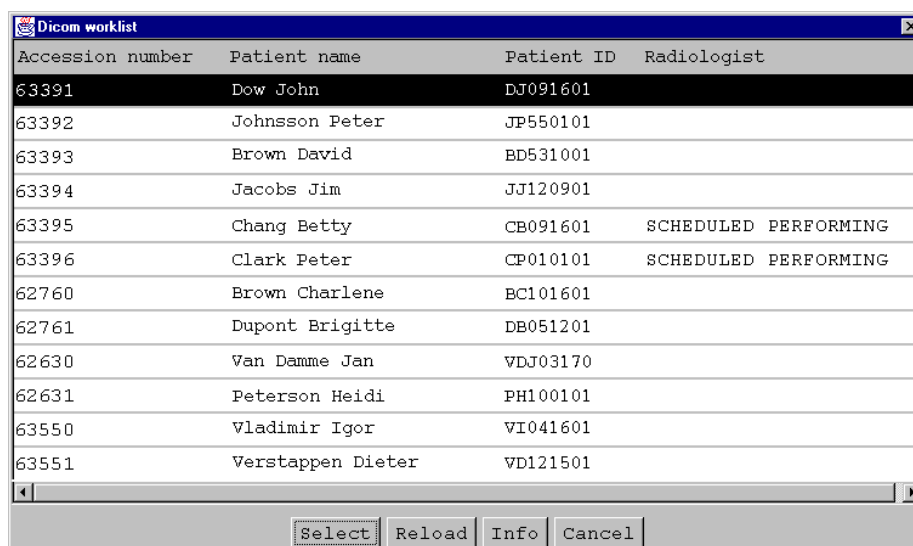
The system queries the RIS, which returns a DICOM worklist to the ID Station, as shown in the sample screen below. The DICOM worklist displays only a few significant DICOM attributes on the basis of which the selection is made. However, you can configure the number of DICOM attributes you want to have displayed on the DICOM worklist.
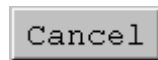

■ From the DICOM Worklist select the patient record you need. The selected patient is displayed on the Worklist screen in inverted video, as shown below.
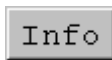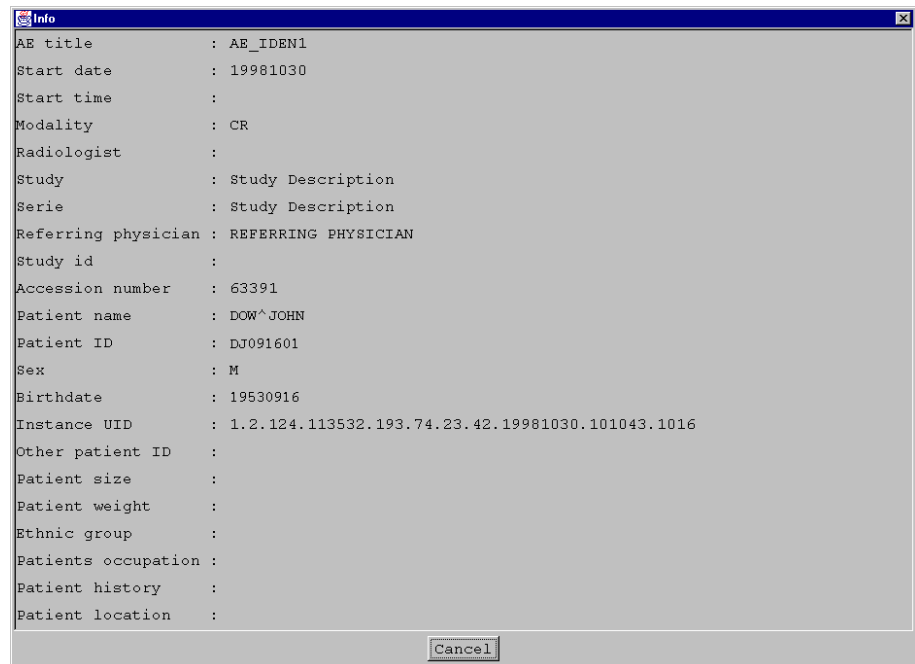
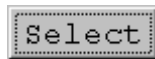◼ You can abort the whole operation at any time by clicking the [CANCEL] button.

```
Cancel
```

◼ If you need more exhaustive information on a patient record than the DICOM attributes displayed on the worklist, press the [INFO] button.

```
Info
```

The system then displays the following sample screen.

```
Info                                                                    ×
AE title            : AE_IDEN1
Start date          : 19981030
Start time          :
Modality            : CR
Radiologist         :
Study               : Study Description
Serie               : Study Description
Referring physician : REFERRING PHYSICIAN
Study id            :
Accession number    : 63391
Patient name        : DOW^JOHN
Patient ID          : DJ091601
Sex                 : M
Birthdate           : 19530916
Instance UID        : 1.2.124.113532.193.74.23.42.19981030.101043.1016
Other patient ID    :
Patient size        :
Patient weight      :
Ethnic group        :
Patients occupation :
Patient history     :
Patient location    :
                              Cancel
```

■ In order to enter the selected patient record into the ADC Compact identification screen, click the [SELECT] button. The patient record is then written to the **RIS data file** and entered in the identification screen, as shown below.

Select

ADC2 IDENTIFICATION STATION <IDEN> IDENTIFICATION SCREEN

File Configuration Mode Perform Help

PATIENT

Patient name	DOW	First name	JOHN
Birth date	16/09/1953	Patient ID	DJ091601
Sex	Male	Accession number	63391

STUDY

Radiologist	AGFA DEFAULT		
Examination	SERVICE	Sub examination	CHEST PORTABLE

IMAGE

Department	AGFA		
Patient position	AP		
Cassette orientation	Landscape	Exposure class	200
Comment			

DESTINATIONS

Hardcopy unit	ADC_LR1	Number of copies	1
Processing station	ADC_PS1	Film format	14INX17IN
Archive station	None		
Send station	None		

F1 Write   F2 Clear   F3 Recall   F4 New patient   F7 History   F10 Cancel

Ready for identification.   12/11/1998 11:10:27

Whenever a new cassette is inserted for identification in the ADC Compact Digitizer, the system returns the DICOM Worklist, displaying the previously selected patient record in **bold and cursivated typeface**, as shown in the sample screen below.
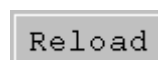
Accession number	Patient name	Patient ID	Radiolo
63391	*Dow John*	*DJ091601*	
63392	Johnsson Peter	JP550101	
63393	Brown David	BD531001	
63394	Jacobs Jim	JJ120901	
63395	Chang Betty	CB091601	SCHEDUL
63396	Clark Peter	CP010101	SCHEDUL
62760	Brown Charlene	BC101601	
62761	Dupont Brigitte	DB051201	
62630	Van Damme Jan	VDJ03170	
62631	Peterson Heidi	PH100101	
63550	Vladimir Igor	VI041601	
63551	Verstappen Dieter	VD121501	

Select   Reload   Info   Cancel

■ If you click the [RELOAD] button, the Rislink Toolkit software returns the Query Builder screen when a new cassette is inserted into the ADC Compact Digitizer, as shown in the sample screen below.

Using the Query Builder the user can change the query settings if so needed, initiating for a newly arrived patient a Patient Oriented DICOM Worklist query, for example.

Reload

Patient Oriented Query

In order to initiate a Patient Oriented DICOM Worklist query, proceed as follows:

◼ Select Patient Oriented in the Query Builder screen, as shown

The Patient Oriented Query Builder screen features, in addition to the same drop-down menu options and buttons as in the Worklist Oriented Query Builder screen, a number of additional patient data fields, like

■ Patient name
■ First name
■ Patient ID
■ Accession number

■ Enter the name of the patient - or Patient ID or Accession number for that matter - you want to perform a HIS query on. In case you fill in all search criteria, viz. the Accession Number, the patient ID and the Patient's Name as search, the system applies the following search priority :

■ Accession Number
■ Patient ID
■ Patient's Name

To simplify your task you can resort to the use of so-called wildcards as shown in the sample screen below.

■ Clicking the [CLEAR] button resets the options to their respective default values.
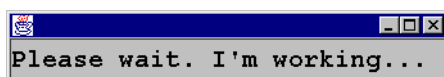
The default values are as follows:

■ ID Station   the ID Station you are currently working on
■ Start date   today
■ Radiologist   unchanged
■ Exam type   unchanged

■ Click the [SUBMIT] button to complete your query.

Submit
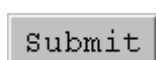
The system displays the waiting message while querying the HIS/RIS

Please wait. I'm working...
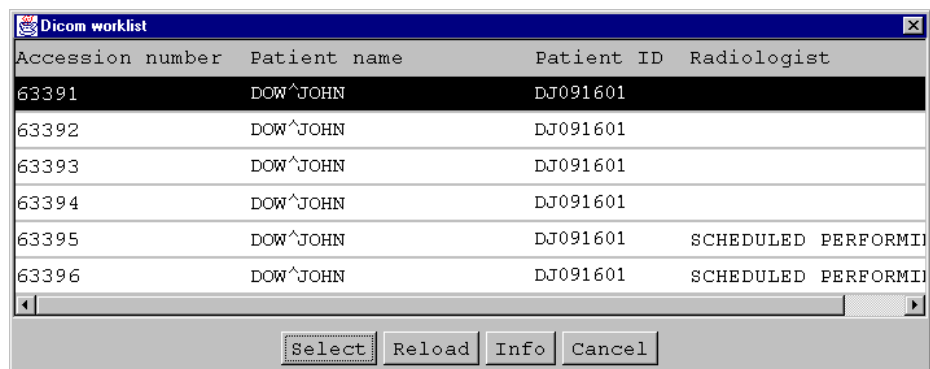
The system then returns a DICOM worklist, as shown in the sample screen below

Dicom worklist				
Accession number	Patient name	Patient ID	Radiologist	
63391	DOW^JOHN	DJ091601		
63392	DOW^JOHN	DJ091601		
63393	DOW^JOHN	DJ091601		
63394	DOW^JOHN	DJ091601		
63395	DOW^JOHN	DJ091601	SCHEDULED	PERFORMII
63396	DOW^JOHN	DJ091601	SCHEDULED	PERFORMII

Select Reload Info Cancel
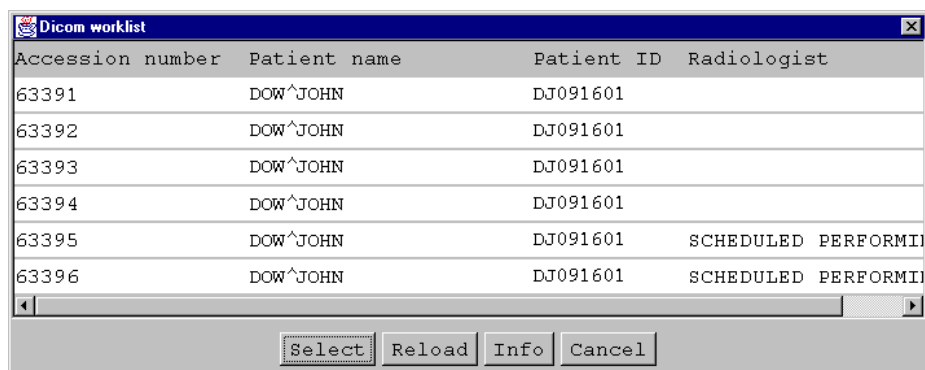
Again, the Patient Oriented DICOM worklist only displays a few significant DICOM attributes (in the sample screen above: Accession number, Patient name, Patient ID and Radiologist). The type and number of DICOM attributes the user wants to have displayed on the worklist is configurable.

■ Select the patient record you need from the worklist. The selected patient record is displayed on the Worklist screen in inverted video, as shown below.

■ You can abort the whole operation at any time by clicking the [CANCEL] button

■ If you need more exhaustive information on a patient record than the DICOM attributes displayed on the worklist, press the [INFO] button

The system then displays the following sample screen

■ In order to enter the selected patient record into the ADC Compact
   identification screen, click the [SELECT] button. The patient record is then
   written to the **RIS data file** and entered in the identification screen, as shown
   below.

ADC2 IDENTIFICATION STATION <IDEN> IDENTIFICATION SCREEN

File Configuration Mode Perform Help

PATIENT

Patient name	DOW	First name	JOHN
Birth date	16/09/1953	Patient ID	DJ091601
Sex	Male	Accession number	63391

STUDY

Radiologist	AGFA DEFAULT
Examination	SERVICE Sub examination CHEST PORTABLE

IMAGE

Department	AGFA
Patient position	AP
Cassette orientation	Landscape Exposure class 200
Comment	

DESTINATIONS

Hardcopy unit	ADC_LR1	Number of copies	1
Processing station	ADC_PS1	Film format	14INX17IN
Archive station	None		
Send station	None		

F1 Write   F2 Clear   F3 Recall   F4 New patient   F7 History   F10 Cancel

Ready for identification.   12/11/1998 11:10:27

Whenever a new cassette is inserted for identification in the ADC Compact Digitizer, the system returns the DICOM Worklist, displaying the previously selected patient record in ***bold and cursivated typeface***, as shown in the sample screen below.

Dicom worklist

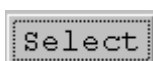| Accession number	Patient name	Patient ID	Radiologist
63391	*DOW JOHN*	*6339*	
63392	DOW^JOHN	6339	
63393	DOW^JOHN	6339	
63394	DOW^JOHN	6339	
63395	DOW^JOHN	6339	SCHEDULED PERFORMI
63396	DOW^JOHN	6339	SCHEDULED PERFORMI

Select Reload Info Cancel

■ If you click the [RELOAD] button, the Rislink Toolkit software returns the Query Builder screen when a new cassette is inserted into the ADC Compact Digitizer, enabling the user to input new settings.

```
Reload
```
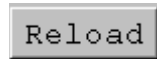
If you input only the Accession Number in the Query Builder screen after Reload, the worklist only displays one line featuring that Accession Number. If on the other hand you submit a query using the Patient ID as a search citerion, the system returns a worklist featuring only one name but several Accession Numbers.

Using Rislink with the Accession Number

ADC Compact ID software

REMOVE "RIS data file" Y/N

- ENTER CASSETTE OR - "RIS ACCESS"

- START PRID OR - "RIS ACCESS"

RIS WORKLIST
Query/sort engine

Col 1	Col 2		Col n
Pat.1 Pat.2 Pat.3 ... Pat.m			
Select	m		

IDEN GUI

---

(1) Rislink Toolkit

DOS EXE	
(2) C:\PRID\RIS.BAT	<file>.EXE

WIN EXE
(3) Path <file>.EXE

MAPPED WORKLIST
(4) path <PARAMETER FILE>

DICOM WORKLIST	
(5) RIS access Query builder	C-FIND /C-GET path <target>

ACCESSION NUMBER
(6)

Local/Remote

USER
PROGRAMME

Remote

RIS SYSTEM/ BROKER

Pat.1 Attr 1, Attr 2, ..., Attr n
Pat.2 Attr 1, Attr 2, ..., Attr n
Pat.m Attr 1, Attr 2, ..., Attr n

Local/Remote

PARAMETER FILE

- path <RIS WORKLIST file>
- dicomtag, name, colon, colon width

+

Local/Remote

RIS WORKLIST file

Pat.1   d1, d2, d3, ...   dn
Pat.2   ...
Pat.3   ...
Pat.m   ...

Asynchronously loaded by RIS system

DICOM

DICOM mapping

Local/Remote

RIS data file
xxxx,xxxx data

eg: adc_ris.dat

RIS Settings

To gain access to the RIS data file using the Accession Number, proceed as follows:

■ Select Ris Settings from the System Manager drop-down menu in the ADC Compact identification screen, as shown below.
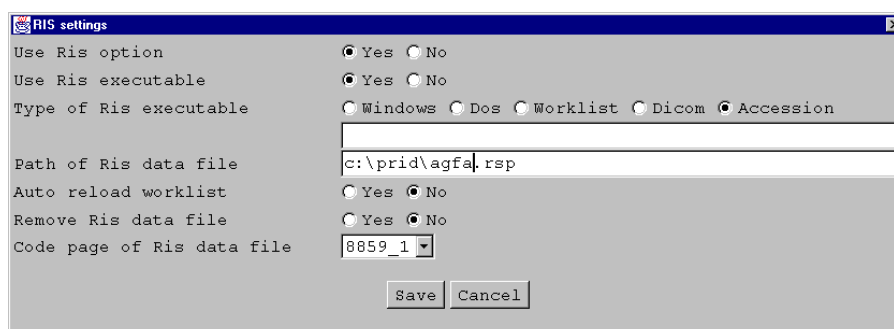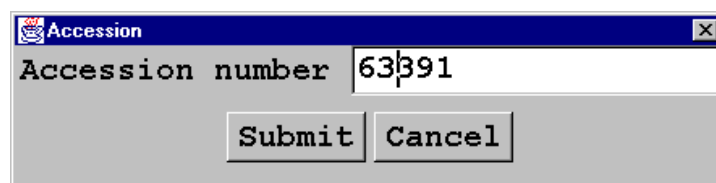

■ In the resulting screen, select the following options:

- For **Use Ris option**, select YES.

- The **RIS executable** will be used, so click YES

- Define the **path of the RIS data file**. The extension used should be .rsp, which is short for "response".

- Select **Accession** as the **Type of Ris executable** you will be using.

- The **Automatic Reload** of the DICOM worklist should be set to NO for all Accession Number queries.

- **Remove RIS data file** : this option enables you to erase the RIS data file after it has been read and written onto the cassette. **Remove RIS data file** should be set to NO.

- The **Code page of RIS data file** enables you to define which code page the RIS data file is created with.

- Click [SAVE] to store your RIS settings or press [CANCEL] to abort the operation.

  The .rsp file contains the data that will be used to complete the fields in the identification screen.

- Whenever a cassette is inserted for identification, the Rislink Toolkit displays a screen, as shown below

■ Fill in the Accession Number and press [SUBMIT]. The system displays a waiting message and creates a request file with the extension .rqt. The broker reads and analyzes this request file and then returns the response file (.rsp), the data of which will show up in the ADC Compact Identification screen.

■ If after a 60 sec time-out no response file is returned or if the Accession Number is not available, an error message is shown.

■ If the problem persists, call Agfa service.

RIS field mapping

Attribute				
Tag	GUI Name	ACR-NEMA format (V0), ADC 70	DICOM format (V1) ADC Compact	DICOM format (V2) ADC Compact
RISLINK version		**RISLINK version 0019,1001**	**RISLINK version 0019,1001**	**RISLINK version 0019,1001**
PatientName name 10,10	Name	lastname + first name 0010,0010 (33char)	lastname + first 0010,0010	lastname + first 0010,0010
	First name	other names (first name) 0010,1001 (20char)		
PatientID 10,20	Patient ID	patient code 0010,0020 (15char)	patient ID 0010,0020	patient ID 0010,0020
PatientBirthDate 10,30	Birth date	patient birth date 0010,0030 (8char)	birth date 0010,0030	birth date 0010,0030
PatientSex 10,40	Sex	patient sex 0010,0040 (1char)	sex 0010,0040	sex 0010,0040
Accession Number 8,50	Accession number	**ris id 0020,0010 (16char)**	accession number 0008,0050	accession number 0008,0050
Name Physician Reading Study 8,1060	Radiologist	radiologist 0008,1060 (20char)	radiologist 0008,1060	radiologist performing the study 0008,1050
Study Description 8,1030	Examination	**exam type 0019,4000 (20char)**	study name 0008,1030	study name 0008,1030
Series Description 8,103E	Sub examination	**exam sub type 0019,4001 (20char)**	series description 0008,103E	series description 0008,103E
StudyID 20,10	Study ID		study ID 0020,0010	study ID 0020,0010
Study Date 8,20	Study Date		study date 0008,0020	study date 0008,0020

Study Time 8,30	Study Time		study time 0008,0030	study time 0008,0030
Referring Physicians Name 8,90	Physician		referring physician name 0008,0090	referring physician name 0008,0090
Total Number Images 19,1070	Number images in series		total number images 0019,1070	total number images 0019,1070
Study Instance UID 20,D	Study Inst. UID		study instance UID 0020,000D	study instance UID 0020,000D
Institutional Department Name 8,1040	Department		department 0008,1040	department 0008,1040
Cassette Orientation	Cassette orient.	**Cassette orientation 0021,0040 (20char)**	cassette orientation 0018,1402	cassette orientation 0018,1402
View Position 18,5101	View Position	**patient position 0020,0020 (20char)**	view position 0018,5101	view position 0018,5101
Sensitivity 18,6000	Exposure Class	**exposure class 0019,1262 (20char)**	sensitivity 0018,6000	sensitivity 0018,6000
Image Comments 20,4000	Comment	comment 0020,4000 (33char)	comment 0020,4000	comment 0020,4000
	User_info 0	**user info field 0010,4000 (12char)**	user info 0 0019 10FA	user info 0 0019 10FA
	User_info 1		user info 1 0019 10FB	user info 1 0019 10FB
	User_info 2		user info 2 0019 10FC	user info 2 0019 10FC
	User_info 3		user info 3 0019 10FD	user info 3 0019 10FD
Laterality 20,60	Laterality		laterality 0020,0060	laterality 0020,0060
Series Number 20,11	Series number		series number 20,11	series number 20,11

Body Part Examined 18,15	Body Part			body part 0018,0015	body part 0018,0015
Number of series 19,1060	Number of series			number of series 19,1060	number of series 19,1060
		number of copies 0000,5170 (1char)		number of copies 0019 10FF	number of copies 0019 10FF
		AS destination 0001,5171 (20char)		AS destination 0019 10F2	AS destination 0019 10F2
		PS destination 0001,5172 (20char)		PS destination 0019 10F0	PS destination 0019 10F0
		HCP destination 0001,5173 (20char)		HCP destination 0019 10F1	HCP destination 0019 10F1
				SCP destination 0019 10F4	SCP destination 0019 10F4
		SEND destination 0001,5174 (20char)		SEND destination 0019 10F3	SEND destination 0019 10F3
				wait flag 0019,1072	wait flag 0019,1072
				last of study flag 0019 1071	last of study flag 0019 1071

[shaded box] need conversion to DICOM elements

When the RIS data file is sent by the RIS in the old format, the tags are converted by PRID. The version (old/new) is indicated in the RIS data file with a version parameter. In case the DICOM 0019 1001 (V0: old version; V1: new version; V2: new version) is not present, the system assumes that the old RIS format is used.

RIS value validation

Rules

- General rule: all data and values coming from the RIS are assumed to be valid and can be accepted. They always overrule the automatically generated data from the ID software. The RIS values can be overruled by hand in the ID screen to the extent that the field is configured to be editable.

- Exceptions: when there are conflicts or data cannot be validated, default values are used.

Rislink file formats

Parameter file format

The parameter file is used to map the delimited RISFILE to the IDEN WORKLIST.

■ INPUT specifies the path of the worklist to be loaded.

■ OUTPUT specifies the path of the RISFILE datafile in which the selected record is written (see Configuration/System/RIS settings; RIS data file)

■ COPY not used; only for compatibility.

■ SEPARATOR gives the delimiting character of the RIS WORKLIST
When a field should not be mapped, a "*" is entered.

Each field of the separated file is assigned to a certain DICOM element of the ADC Compact ID software. All fields in the RIS WORKLIST must be mentioned, even those which are not mapped.

Example:

INPUT:s:_adc2_f1\tag\worklist.txt
OUTPUT:c:\prid\worklist\Agfa.out
COPY:c:\prid\worklist\Agfa.cop
SEPARATOR:,
FIELD 01:*
FIELD 02:0019,2001/PatientName/1/15
FIELD 03:0019,2002/First Name/2/15
FIELD 04:0010,0030/Birthdate/3/10
FIELD 05:0010,0020/PatientID/4/14
FIELD 06:0010,0040/Sex/5/4
FIELD 07:0008,0050/AccessionNumber/6/4
FIELD 08:0008,1060/Radiologist/7/15
FIELD 09:0008,1030/Study Description/8/10
FIELD 10:0008,103E/Series Description/9/10
FIELD 11:0018,0015/bodypart/10/7
FIELD 12:0020,0010/StudyID/11/5
FIELD 13:0020,000D/Study Instance UID/12/0
…….

example: FIELD 02:0019,2001/PatientName/1/15

explanation:
FIELD 02: Field number.
0019,2001: Dicom group number and element number.
patient name: fieldname, can be renamed.
1:sequence in the worklist.
15:number of characters. If "0", not displayed in the worklist.

RIS WORKLIST file format

The RISFILE is a delimited file of worklist fields created by a RIS system (local or remote mounted). The separator is declared in the parameter file (SEPARATOR).

Example:

Normal, img1, 21x43, 19960916, img1_ID, O, Acc_nr_1, AGFA DEFAULT M, SPINE, LUMBAR LAT, , std_img1, , 19970926, 000001, ADC_SQA, , AGFA ADC2, , , , Comment_img1, , , img1_weight, img1_ethnic_grp, img1_info_3, img1_info_4, ADC_LR1, 1, Viewer2, , none, none <CR>
Normal, img2, 21x43, 19960916, img2_ID, O, Acc_nr_2, AGFA DEFAULT M, SPINE, LUMBAR LAT, , std_img2, , 19970926, 000002, ADC_SQA, , AGFA ADC2, , , , Comment_img2, , , img2_weight, img2_ethnic_grp, img2_Info_3, img2_Info_4, ADC_LR1, 1, Viewer2, , none, none <CR>
Normal, img3, 35x43, 19960916, img3_ID, O, Acc_nr_3, AGFA DEFAULT M, CHEST, RIBS UPPER, , std_img3, , 19970926, 000003, ADC_SQA, , AGFA ADC2, , , , Comment_img3, , , img3_weight, img3_ethnic_grp, img3_Info_3, img3_Info_4, ADC_LR1, 1, Viewer2, , none, none <CR>

CE

AGFA *Agfa*